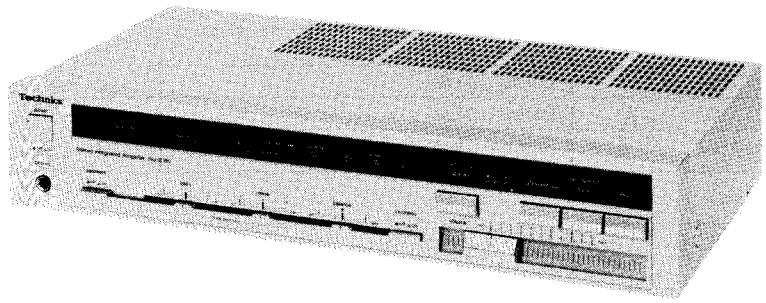
ORDER NO. HAD85042498A2

Service Manual

Stereo Integrated Amplifier

Amplifier

SU-Z150



Color

(S) · · · · Silver Type
(K) · · · · Black Type

Color	Area
(K)(S)	[EGA] . . . F.R. Germany

Please use this manual together with the service manual for Model No. SU-Z150, Order No. HAD85022412C8.

■ TECHNISCHE DATEN

(DIN 45 500)

■ VERSTÄRKERTEIL

Dauerton-Ausgangsleistung bei 1 kHz
beide Kanäle ausgesteuert 2 × 30W (8 Ω)
Gesamtklirrfaktor
halbe Nennleistung bei 1 kHz 0,05% (8 Ω)
Intermodulationsfaktor
Nennleistung bei 60 Hz: 7 kHz = 4:1, nach SMPTE, 8 Ω 0,8%
Leistungsbandbreite
beide Kanäle ausgesteuert bei −3 dB 15 Hz ~ 25 kHz (8 Ω)
Dämpfungsfaktor 40 (8 Ω)
Eingangsempfindlichkeit und -impedanz
Phono 2,5 mV/47 kΩ
Tuner, CD/Aux 150 mV/22 kΩ
Tape Aufnahme/Wiedergabe (Tape/EXT) 150 mV/22 kΩ
Maximale TA-Eingangsspannung (1 kHz, eff.) 150 mV
Geräuschspannungsabstand
Nennleistung (8 Ω)
Phono 71 dB (nach IHF, A: 71 dB)
Tuner, CD/Aux, Tape/EXT 85 dB (nach IHF, A: 96 dB)
Frequenzgang
Phono RIAA-Standardkurve, ±0,8 dB (30 Hz ~ 15 kHz)
Tuner, CD/Aux, Tape/EXT 10 Hz ~ 70 kHz (−3 dB)

Klangregler
Baßregler (BASS) 50 Hz, +10 dB ~ −10 dB
Höhenregler (TREBLE) 20 kHz, +10 dB ~ −10 dB
Gehörrichtige Lautstärkekorrektur (Loudness)
(bei −30 dB Ausgangsleistung) 50 Hz, +9 dB
Ausgangsspannung und -impedanz
Aufnahmeausgang (REC OUT) 150 mV
Kanalabweichung (CD/Aux, 250 Hz ~ 6300 Hz) ±1 dB
Übersprechdämpfung (CD/Aux, 1 kHz) 55 dB
Kopfhörerpegel und -impedanz 370 mV/330 Ω
Lautsprecherimpedanz 8 Ω ~ 16 Ω

■ ALLGEMEINE DATEN

Leistungsaufnahme 160 W
Netzspannung Wechselstrom 50 Hz/60 Hz, 220V
Abmessungen (B×H×T) 430 × 86 × 240 mm
Gewicht 3,8 kg

Bemerkung:
Der Gesamtklirrfaktor wurde mit einem digitalen Rauschspektrometer (Anlage H.P. 3045) gemessen.

(Die technischen Daten können infolge von Verbesserungen ohne Ankündigung geändert werden.)

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P.O. Box 288, Central Osaka Japan

■ REPLACEMENT PARTS LIST

Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The "Ⓢ" mark is service standard parts and may differ from production parts.

Ref. No.	Change of Part No. SU-Z150 [E] → SU-Z150 [EGA]		Part Name & Description	Per Set (Pcs.)	Remarks
RESISTORS					
R101, 102	Addition	ERDS2TJ471	Carbon, 470Ω	2	
R103, 104	Addition	ERDS2TJ102	Carbon, 1kΩ	2	
R105, 106	Addition	ERDS2TJ102	Carbon, 1kΩ	2	
R107, 108	Addition	ERDS2TJ102	Carbon, 1kΩ	2	
CAPACITORS					
C101, 102	Addition	ECCD1H180KC	Ceramic, 18pF	2	Ⓢ
C103, 104	Addition	ECCD1H221K	Ceramic, 220pF	2	Ⓢ
C105, 106	Addition	ECCD1H101K	Ceramic, 100pF	2	Ⓢ
C107, 108	Addition	ECCD1H101K	Ceramic, 100pF	2	Ⓢ
C109, 110	Addition	ECCD1H101K	Ceramic, 100pF	2	Ⓢ
C111	Addition	ECKD1H102KB	Ceramic, 0.001μF	1	Ⓢ
C115, 116	Addition	ECKD1H223ZF	Ceramic, 0.022μF	2	Ⓢ
C117, 118	Addition	ECKD1H103ZF	Ceramic, 0.01μF	2	Ⓢ
C119	Addition	ECKD1H223ZF	Ceramic, 0.022μF	1	Ⓢ
C121, 122	Addition	ECKD1H221KB	Ceramic, 220pF	2	Ⓢ
C130	Addition	ECKD1H102KB	Ceramic, 0.001μF	1	Ⓢ
C131	Addition	ECCD1H010CC	Ceramic, 1pF	1	Ⓢ
C407, 408	ECCD1H020CC	ECCD1H030CC	Ceramic, 3pF	2	Ⓢ
C601, 602	ECKD1H223ZF	ECQM1H823JZ	Polyester, 0.082μF	2	Ⓢ
INTEGRATED CIRCUIT					
IC201	M5218P	M5220P	Equalizer	1	
COILS					
L1, 2	Addition	SLQX400–D	Choke Coil	1	⚠
L101, 102	Addition	SLQY15G–10	Choke Coil	1	
CABINET and CHASSIS PARTS					
7	SBC723	SBC723–2	Button, Loudness, Speaker	2	
22	SGP6460A	SGP6460B	Rear Panel	1	
ACCESSORY					
A3	SQF12291	SQF12296	Instruction Book	1	

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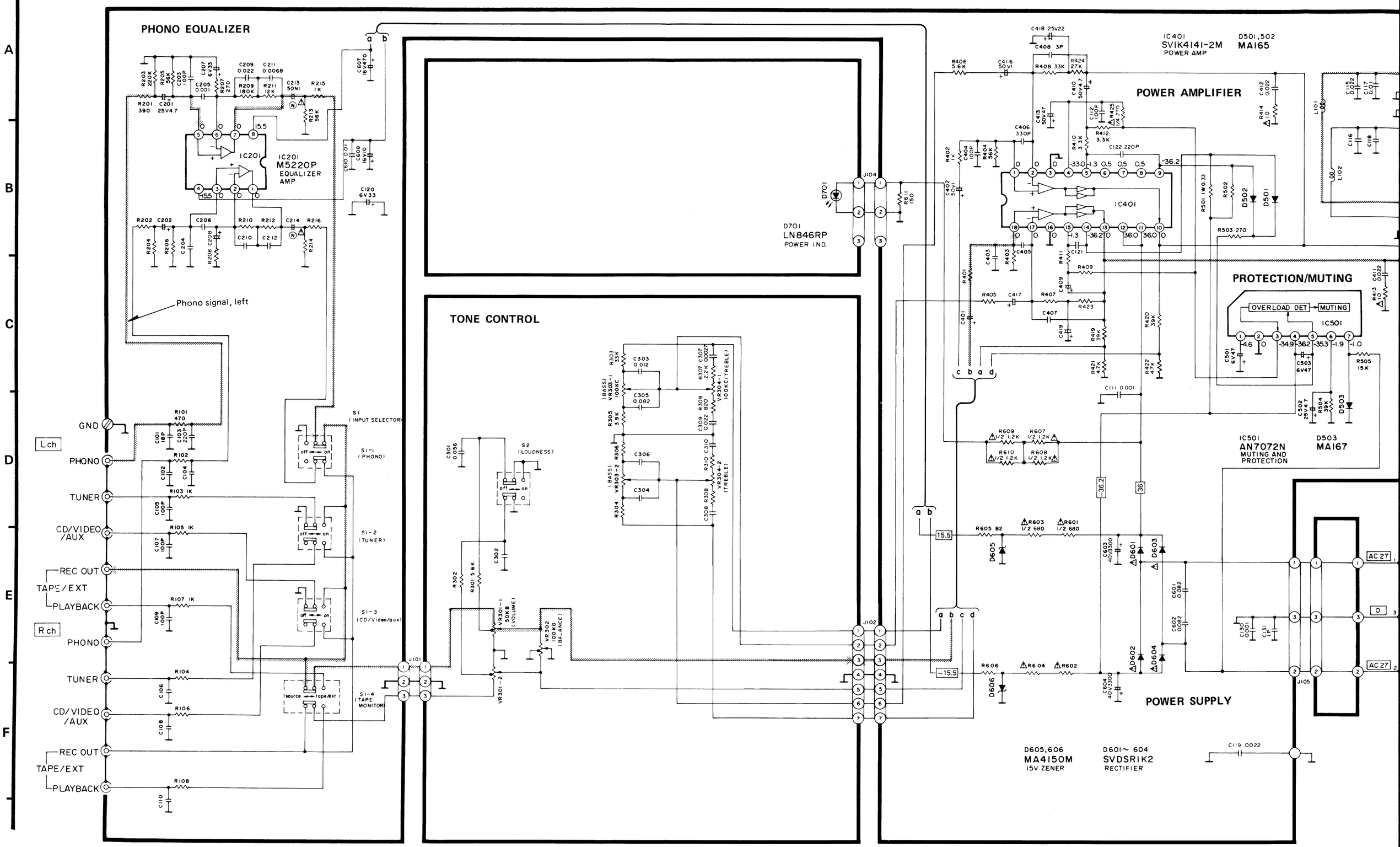

PHONO EQUALIZER
IC201
M5220P
EQUALIZER AMP
Phono signal, left
GND
PHONO
TUNER
CD/VIDEO /AUX
REC OUT
TAPE/EXT
PLAYBACK
Lch
Rch
S1 (INPUT SELECTOR)
S1-1 (PHONO)
S1-2 (TUNER)
S1-3 (CD/Video/aux)
S1-4 (TAPE MONITOR)
TONE CONTROL
S2 (LOUDNESS)
VR303-1 100KC (BASS)
VR304-1 100KC (TREBLE)
VR303-2 (BASS)
VR304-2 (TREBLE)
VR301-1 50KB (VOLUME)
VR301-2
VR302 100KG (BALANCE)
D701
LN846RP
POWER IND.
IC401
SVIK4141-2M
POWER AMP
D501,502
MA165
POWER AMPLIFIER
PROTECTION/MUTING
OVERLOAD DET
MUTING
IC501
IC501
AN7072N
MUTING AND PROTECTION
D503
MA167
POWER SUPPLY
D605,606
MA4150M
15V ZENER
D601~604
SVDSR1K2
RECTIFIER
AC 27
J101
J102
J104
J105

■ SCHEMATIC DIAGRAM

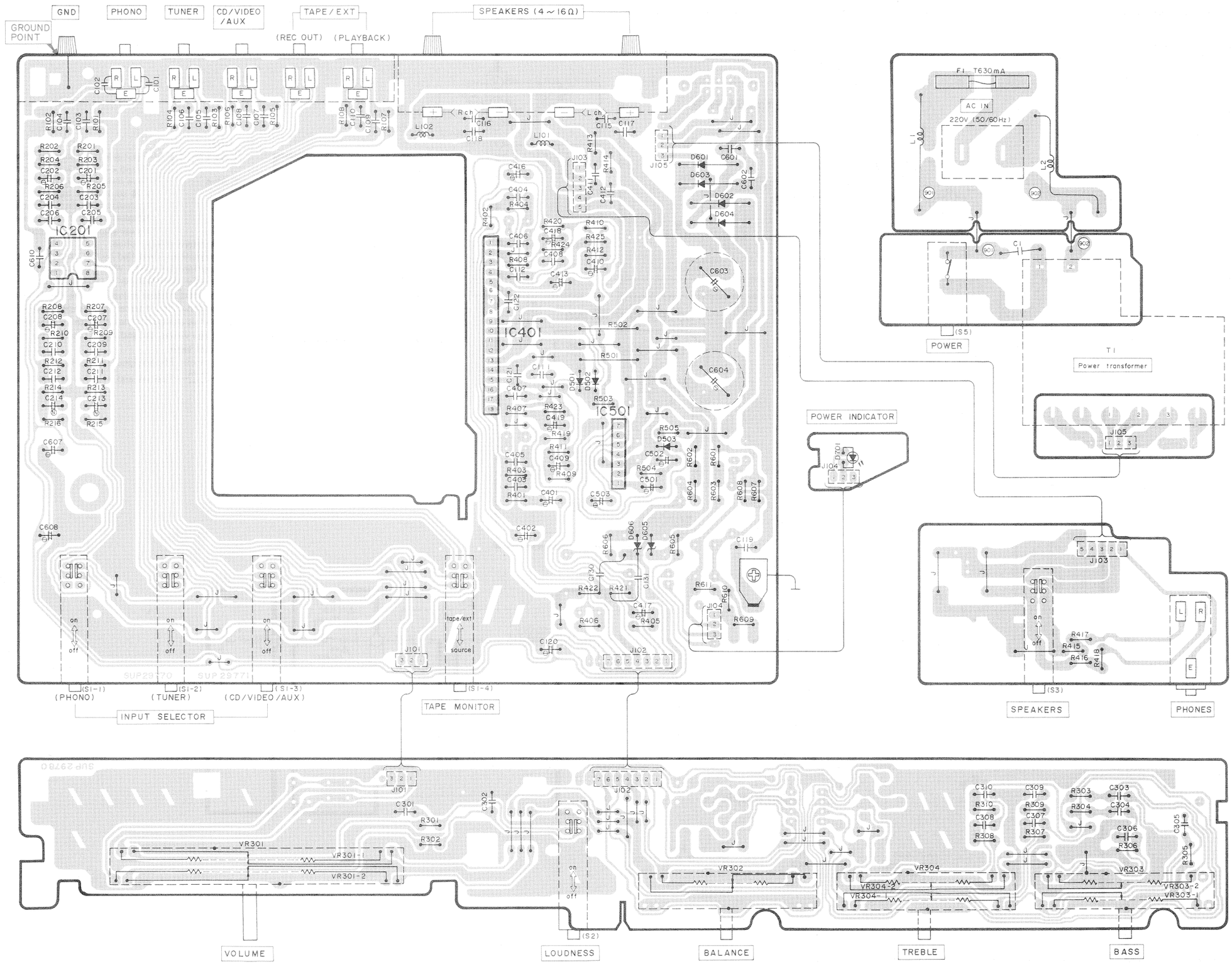
(This schematic diagram may be modified at any time with the development of new technology.)

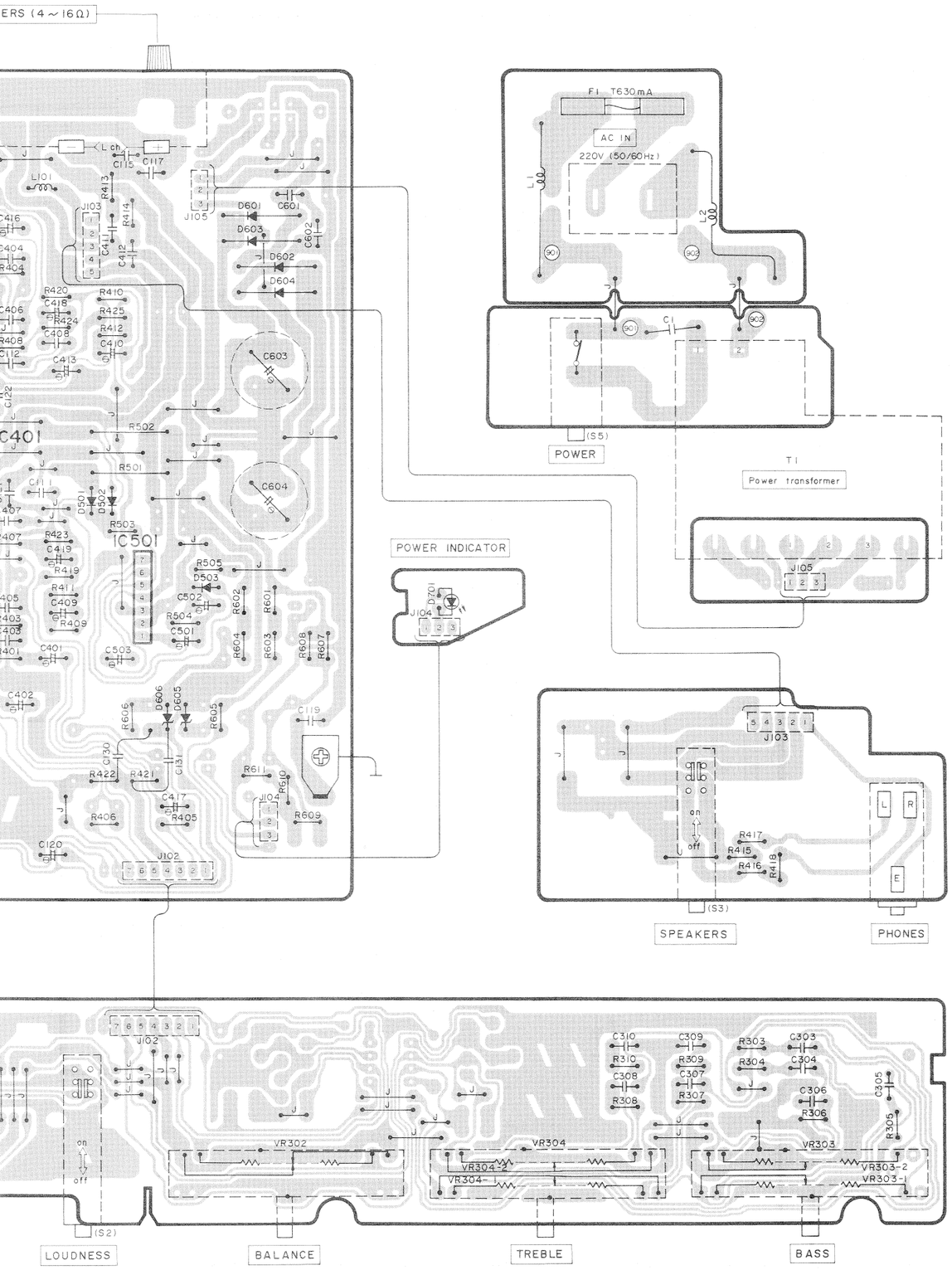
Notes:

1. **S1-1 ~ S1-3** : Input selector switch in **"Phono"** position. Phono ↔ tuner ↔ CD/video/aux
2. **S1-4** : Tape monitor switch in **"source"** position. (▮ source, ▁ tape/ext)
3. **S2** : Lodness switch in **"off"** position.
4. **S3** : Speaker switch in **"on"** position.
5. **S5** : Power switch in **"on"** position.
6. Important safety notice:
   Components identified by ⚠ mark have special,characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
7. Indicated voltage values are the standard values for the DC electronic circuit tester (high-impedance) with the ground point taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
8. ▒▒▒ Phono signal line, Lch.
9. —▭— Positive and negative voltage line.

SU-Z150 SU-Z150

■ PRINTED CIRCUIT BOARDS





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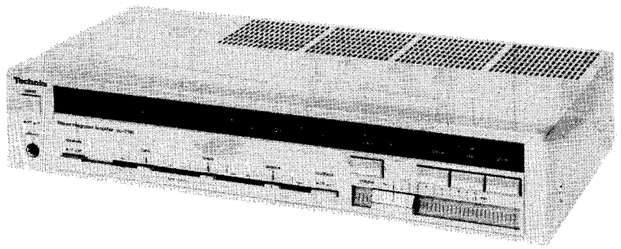
Stereo Integrated Amplifier

Amplifier

SU-Z150



Color

(S) · · · · Silver Type
(K) · · · · Black Type

Color	Area
(K) (S)	[E] · · · · · Switzerland and Scandinavia
(K) (S)	[EK] · · · · United Kingdom
(K) (S)	[EF] · · · · France
(K) (S)	[EH] · · · · Holland
(K) (S)	[EB] · · · · Belgium
(K) (S)	[Ei] · · · · · Italy
(K) (S)	[XL] · · · · Australia
(K) (S)	[XA] · · · · Asia, Latin America, Africa, Middle Near East and Oceania

SPECIFICATIONS

(DIN 45 500)

■ AMPLIFIER SECTION

1 kHz continuous power output	
both channels driven	2 × 30W (8Ω)
Total harmonic distortion	
half power at 1 kHz	0.05% (8Ω)
Intermodulation distortion	
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.8%
Power bandwidth	
both channels driven, −3 dB	15 Hz~25 kHz (8Ω)
Damping factor	40 (8Ω)
Input sensitivity and impedance	
PHONO	2.5 mV/47kΩ
TUNER, CD/AUX	150 mV/22kΩ
TAPE/EXT	150 mV/22kΩ
PHONO maximum input voltage (1 kHz, RMS)	150 mV
S/N	
rated power (8Ω)	
PHONO	71 dB (IHF, A: 71 dB)
TUNER, CD/AUX, TAPE/EXT	85 dB (IHF, A: 96 dB)
Frequency response	
PHONO	RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
TUNER, CD/AUX, TAPE/EXT	10 Hz~70 kHz (−3 dB)
Tone controls	
BASS	50 Hz, +10 dB~ −10 dB
TREBLE	20 kHz, +10 dB~ −10 dB
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Output voltage and impedance	
REC OUT	150 mV
Channel balance, CD/AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, CD/AUX 1 kHz	55 dB
Headphones output level and impedance	370 mV/330Ω
Load impedance	8Ω~16Ω

■ GENERAL

Power consumption	160W
Power supply	
For Australia and United Kingdom	AC 50 Hz/60 Hz, 240V
For continental Europe	AC 50 Hz/60 Hz, 220V
For others	AC 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensions (W×H×D)	430 × 86 × 240 mm (16-30/32" × 3-3/8" × 9-7/16")
Weight	3.8 kg (8.4 lb.)

Note:
Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Specifications are subject to change without notice for further improvement.

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BEFORE REPAIR AND ADJUSTMENT	3
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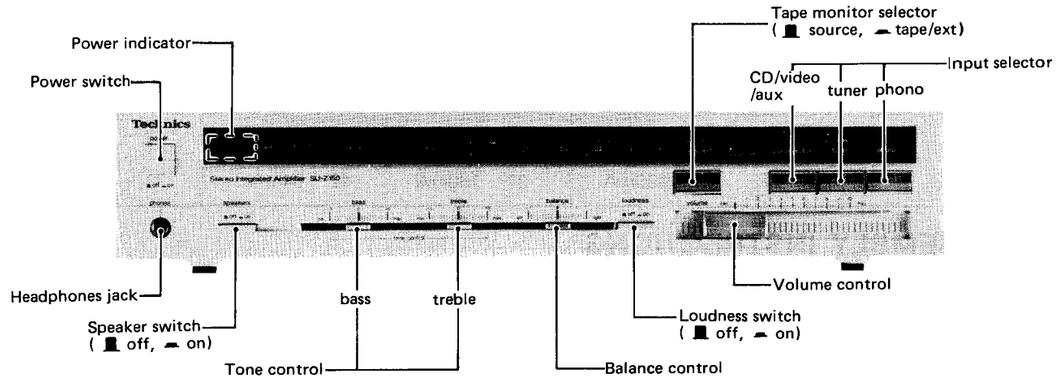
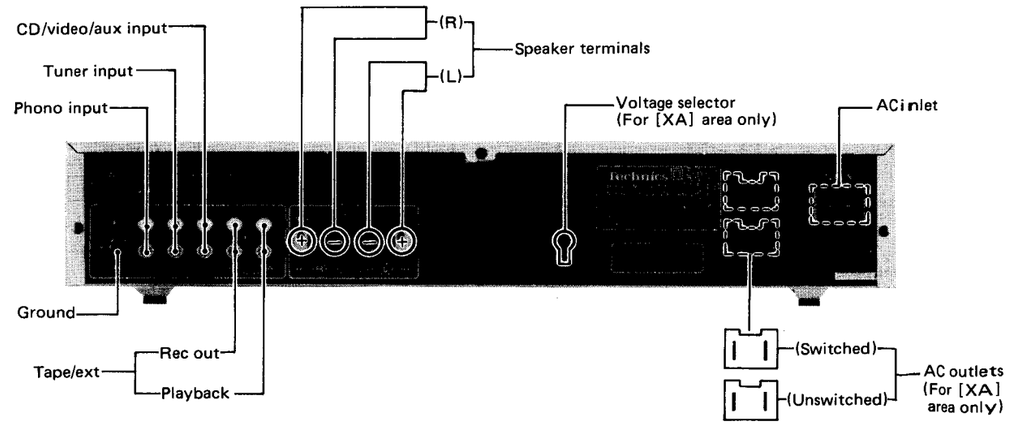
■ LOCATION OF CONTROLS





- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and replacement parts list.

* [XA] area is provided with voltage selector and AC outlets.
* 240V (50/60Hz) for Australia and United Kingdom.
* 220V (50/60Hz) for Continental Europe.
* 110V/127V/220V/240V (50/60Hz) for other [XA] area.
* Phono input capacitance is about 150pF.

■ PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again.

Note:
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

■ BEFORE REPAIR AND ADJUSTMENT

1. Turn off the power, Discharge both power supply capacitors (C603, C604, 3300μF) through a 10 ohm, 5W resistor to ground. Do not short between C603 and C604. It may damage the capacitors.
2. After completion of repair, slowly apply the primary voltage by using a variac to avoid over current. Current consumption at 60Hz/50Hz in no signal mode should by shown below with respect to supply voltage 110V/127V/ 220V/ 240V.

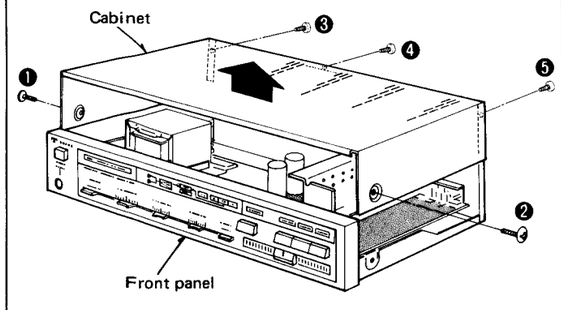
Power supply voltage		AC110V	AC127V	AC220V	AC240V
Consumed current	50Hz	95 ~ 190mA	80 ~ 180mA	47 ~ 94mA	43 ~ 86mA
	60Hz	95 ~ 190mA	80 ~ 180mA	42 ~ 84mA	38 ~ 76mA

■ DISASSEMBLY INSTRUCTIONS

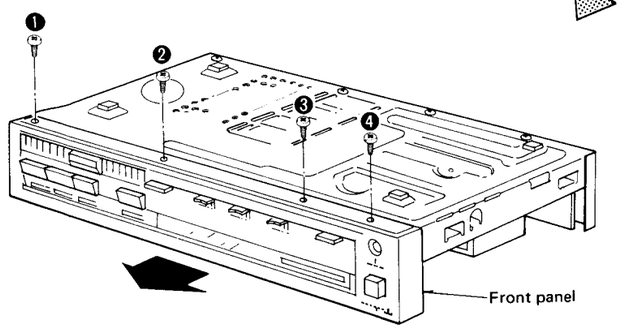
Ref. No. 1 — How to remove the cabinet

Procedure 1

- Remove the 5 screws. (❶ ~ ❺)



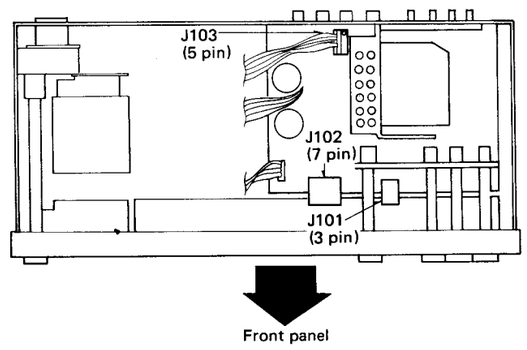
- Remove the 4 screws. (❶ ~ ❹)



Ref. No. 2 — How to remove the front panel

Procedure 1 → 2

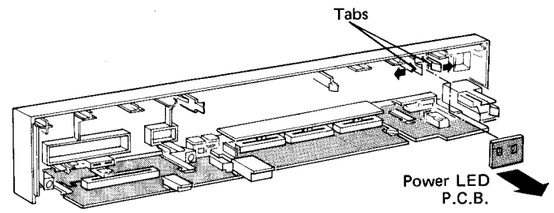
- Remove the 3 connector (J101 ~ J103)



Ref. No. 3 — How to remove the power LED P.C.B.

Procedure 1 → 2 → 3

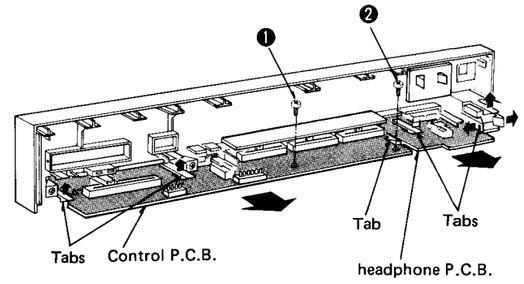
- Push the 2 tabs aside.



Ref. No. 4 — How to remove the control and headphone P.C.B.

Procedure 1 → 2 → 4

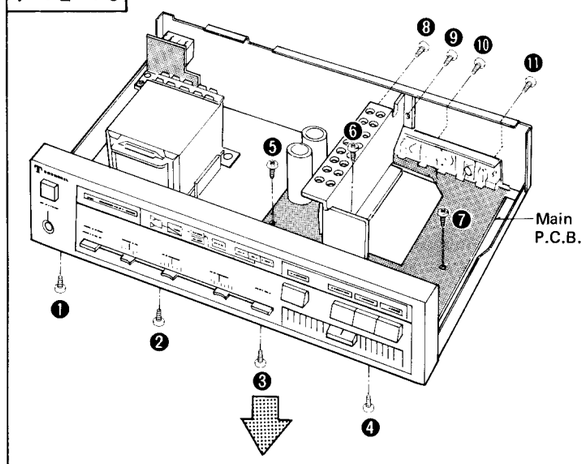
- Remove the 2 screws. (❶ , ❷)
- Push the 3 tabs aside of control P.C.B.
- Push the 4 tabs aside of headphone P.C.B.



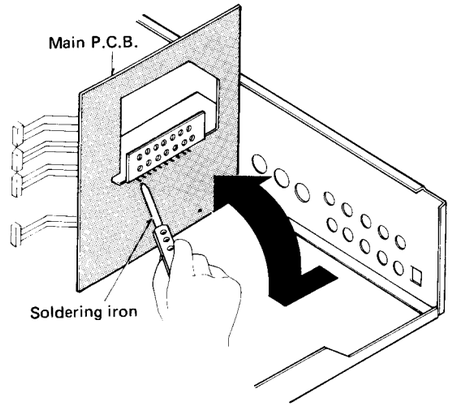
Ref. No. 6 — How to change the power IC

Procedure 1 → 2 → 6

- Remove the 11 screws. (❶ ~ ⓫)



- Unsolder the power IC.

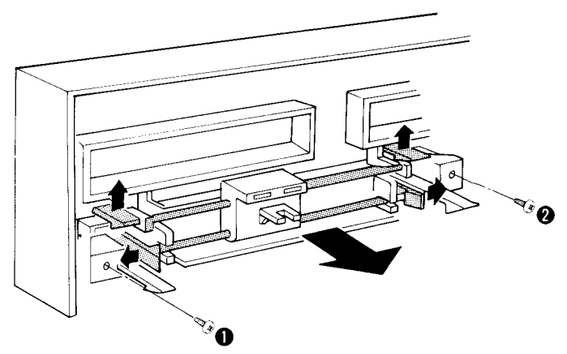


When mounting the power IC, apply heat-sink conpound (SZZ0L15) to the rear of the power IC.

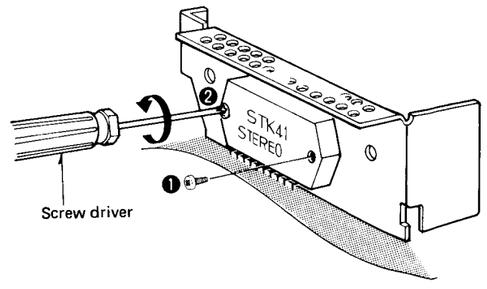
Ref. No. 5 — How to remove the volume knob

Procedure 1 → 2 → 4 → 5

- Remove the 2 screws. (❶ , ❷)
- Push the 4 tabs aside.

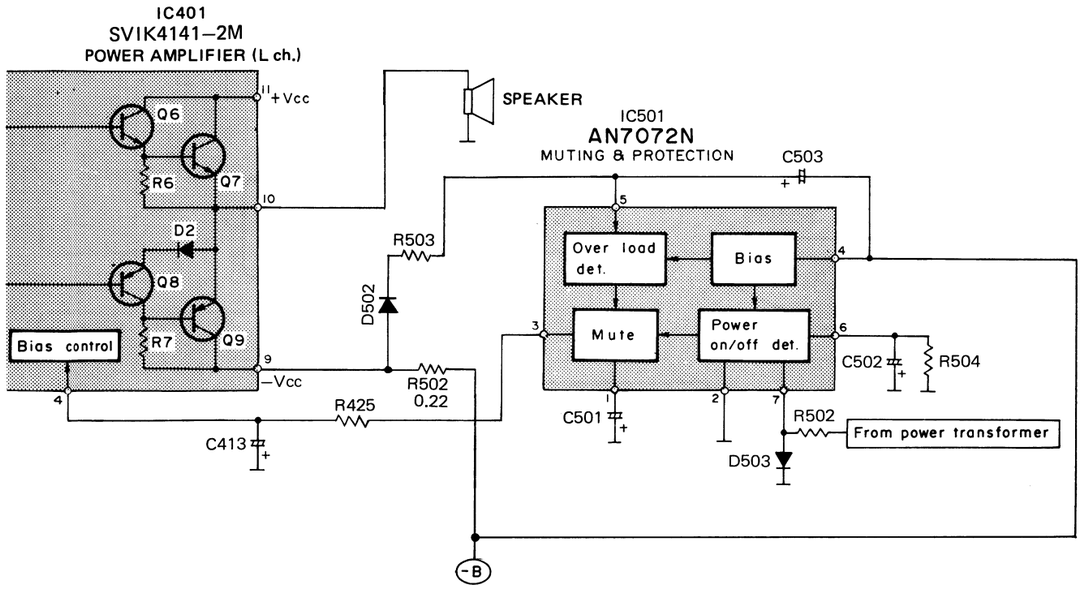


- Remove the 2 screws. (❶ , ❷)

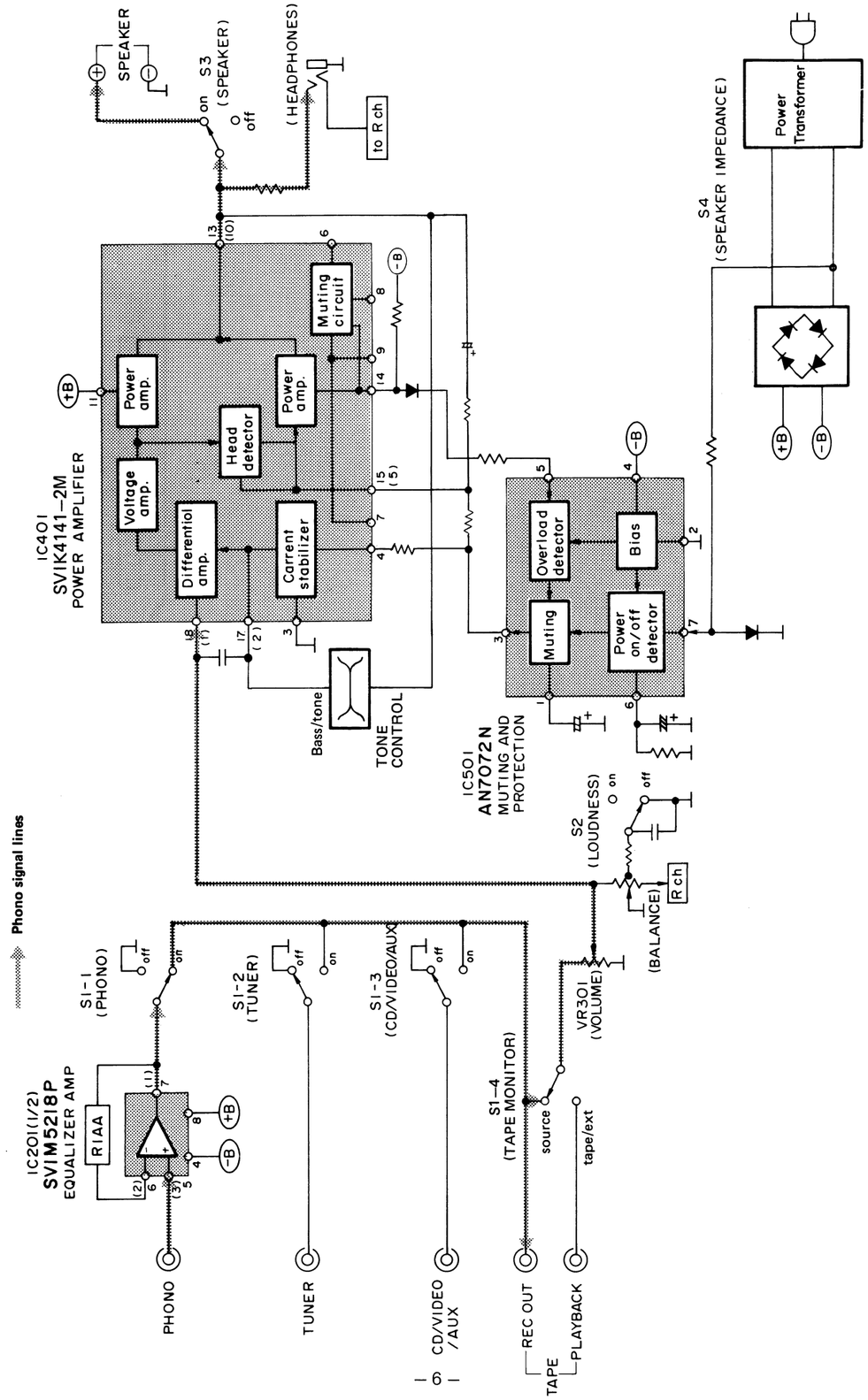


■ OPERATIONAL DESCRIPTION OF IC501 FOR MUTING

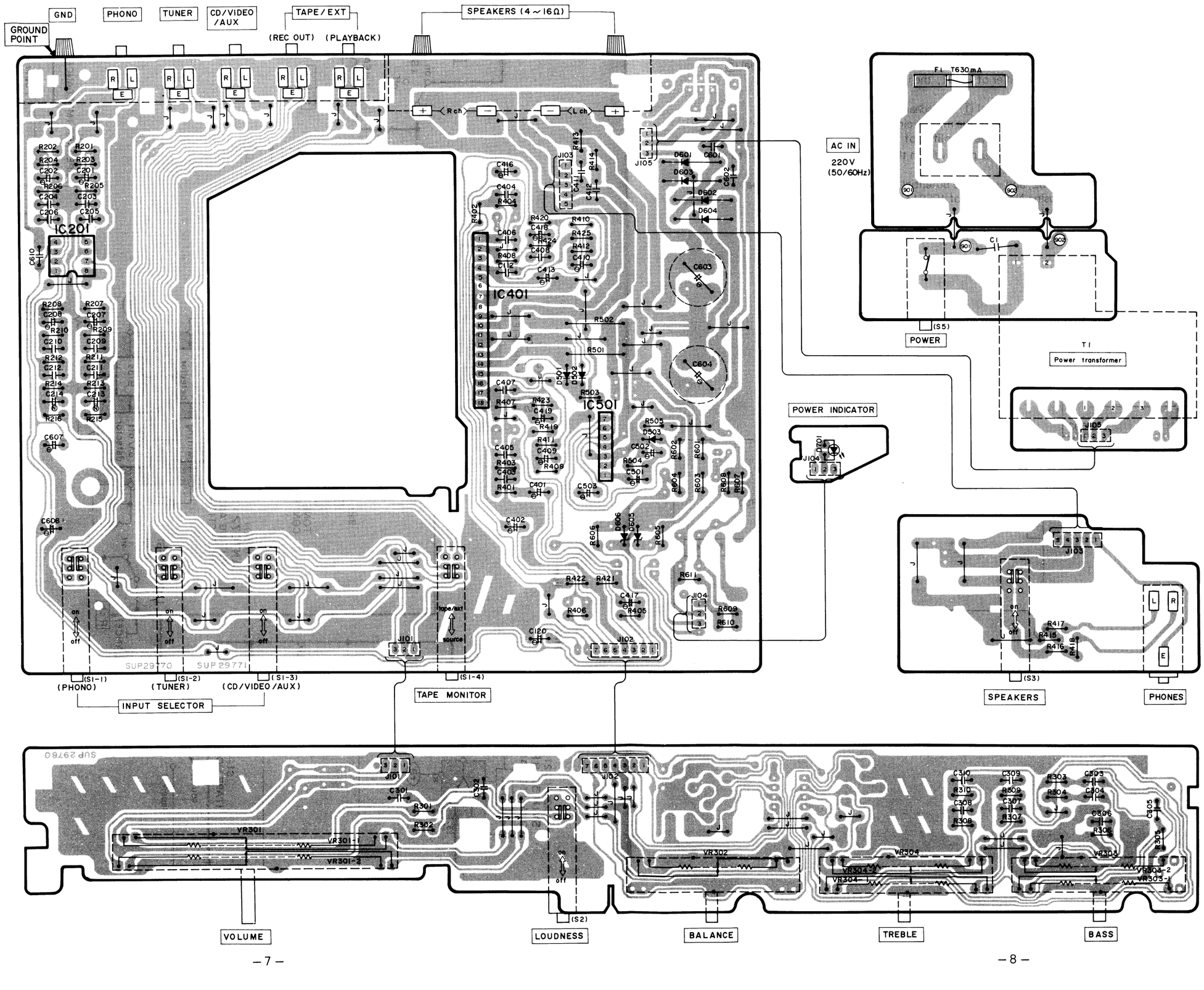
1. Muting operation with power ON.
   With power turned ON, DC voltage is applied to terminal ⑦ of IC501. Then capacitor C501 connected to terminal ① is charged, and the voltage of terminal ① gradually rises. When the voltage reaches about −4.5V (about 5 sec. after power ON), the muting circuit turns off, and then −36.6V is generated at terminal ③ . The voltage of terminal ③ is supplied to the power amplifier of IC401, then operating power IC.
2. Muting operation with power OFF.
   With power turned OFF, capacitor C501 connected to terminal ① is discharged, causing the voltage of C501 to drop, and then the muting circuit in IC turns ON. With the muting circuit turned ON, the voltage of terminal ③ becomes 0V, and then power supply to the power amplifier of IC401 is discontinued.
3. Speaker terminals are short-circuited while hearing at a high output level. In this case, a large current flows to the power supply line applied to No. ⑨ terminal of IC401.
   Then, voltages are generated at the terminals of R502, and when the potential difference exceeds 1.5V, the voltage applied to No. ⑤ pin of IC501 drops , causing No. ③ pin of IC501 to turn ON.
   So, stop the operation of power amplifier to cut off the output.
   (Note: When the output level is low, short-circuiting the output does not cause operation.)

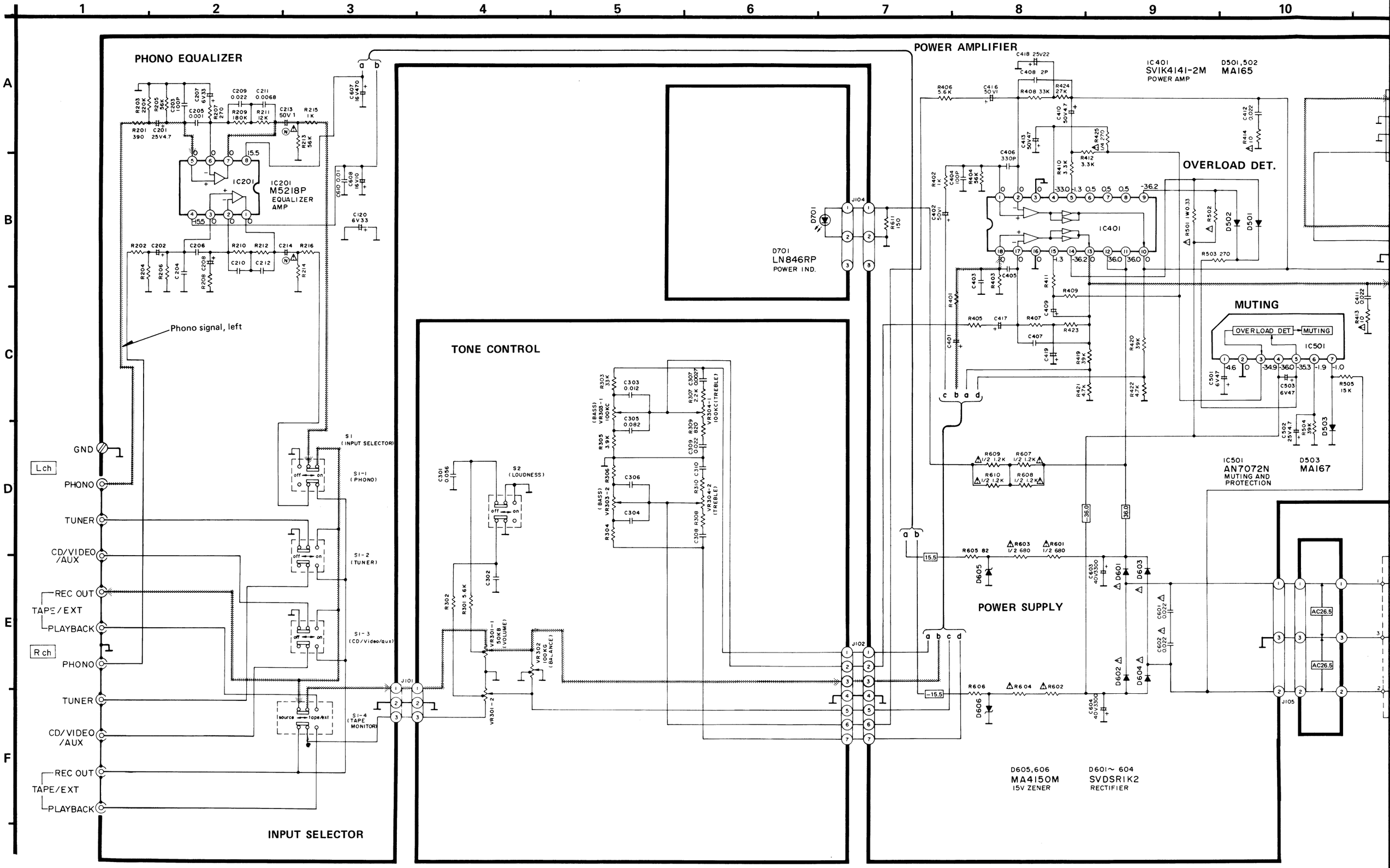


■ BLOCK DIAGRAM



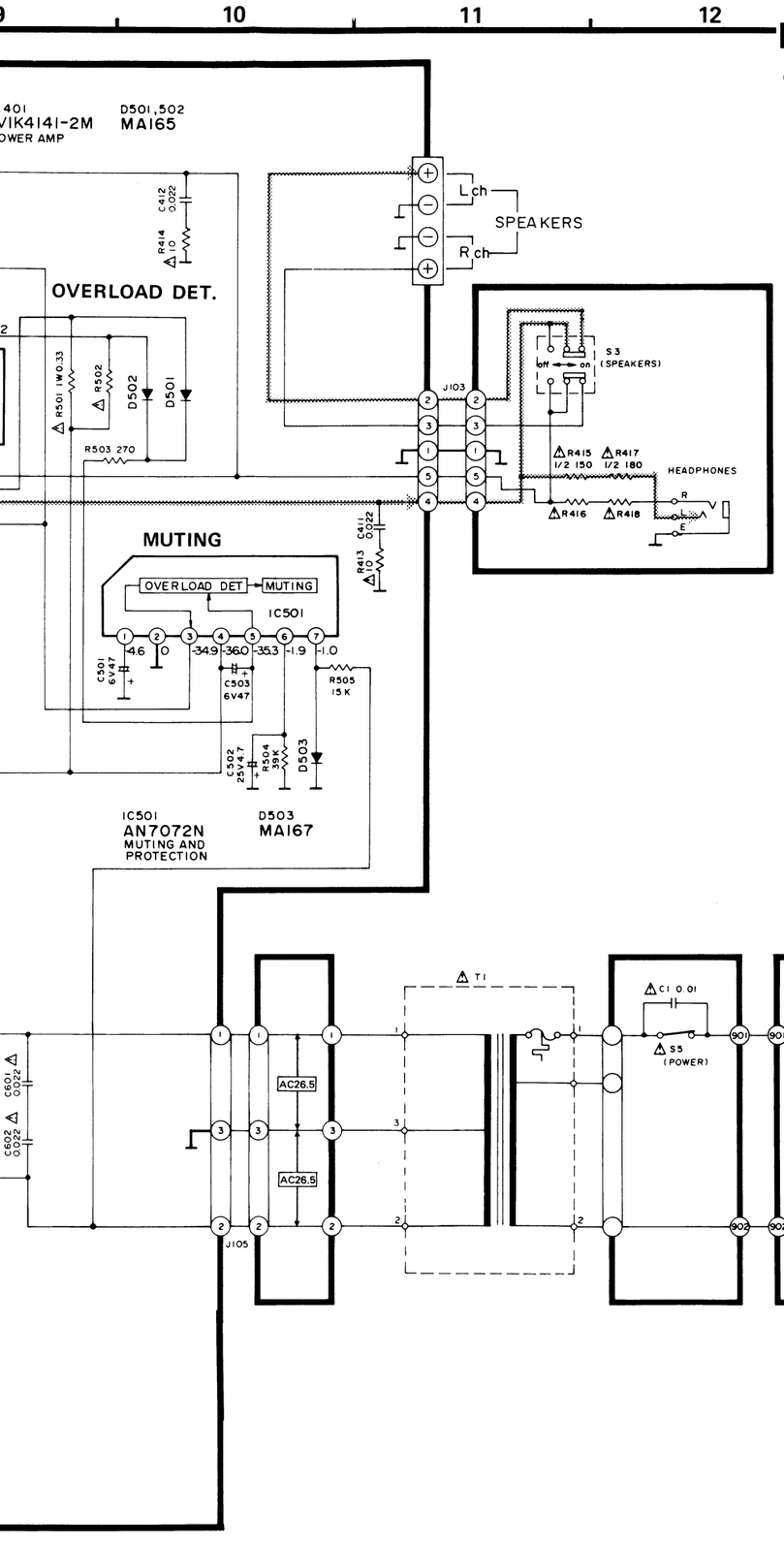
■ PRINTED CIRCUIT BOARDS




PHONO EQUALIZER
IC201
M5218P
EQUALIZER AMP
Phono signal, left
GND
Lch
PHONO
TUNER
CD/VIDEO /AUX
REC OUT
TAPE/EXT
PLAYBACK
Rch
S1 (INPUT SELECTOR)
S1-1 (PHONO)
S1-2 (TUNER)
S1-3 (CD/Video/aux)
S1-4 (TAPE MONITOR)
INPUT SELECTOR
TONE CONTROL
S2 (LOUDNESS)
VR301-1 50KB (VOLUME)
VR301-2
VR302 100KG (BALANCE)
VR303-1 100KC
VR303-2
VR304-1 100KC (TREBLE)
VR304-2
D701
LN846RP
POWER IND.
POWER AMPLIFIER
IC401
SVIK4141-2M
POWER AMP
D501,502
MA165
OVERLOAD DET.
MUTING
IC501
AN7072N
MUTING AND PROTECTION
D503
MA167
POWER SUPPLY
D605,606
MA4150M
15V ZENER
D601~604
SVDSR1K2
RECTIFIER
AC26.5
J101
J102
J104
J105

■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

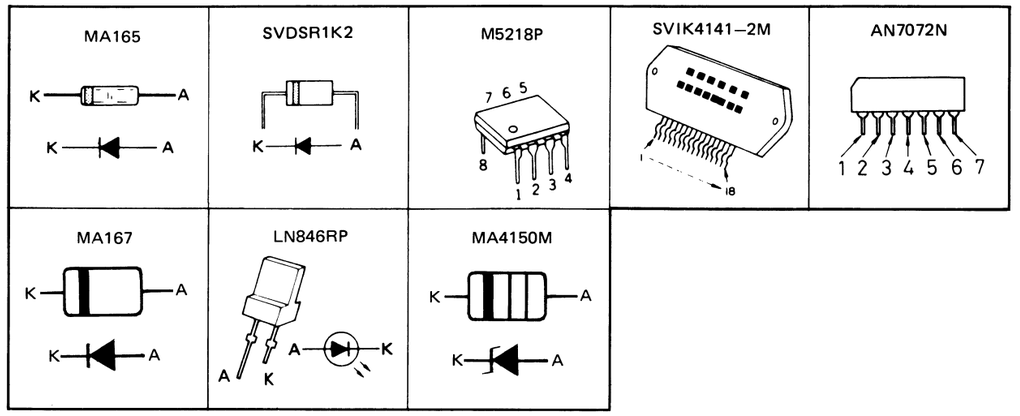


Area	Power source
Continental Europea	AC220V (50/60Hz)
United Kigdom & Australia	AC240V (50/60Hz)

Notes:

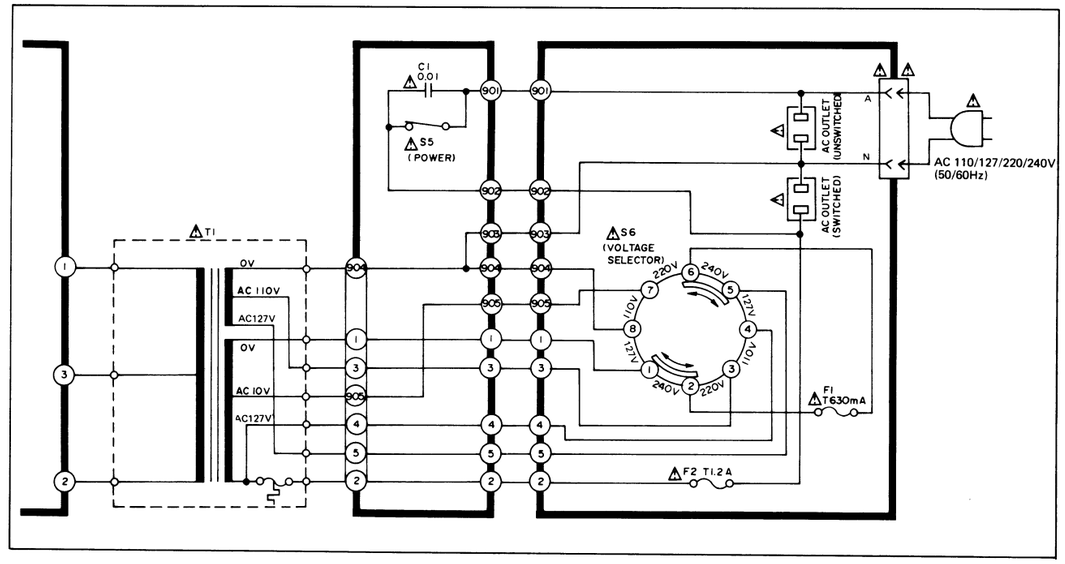
1. **S1-1 ~ S1-3** : Input selector switch in **"Phono"** position. Phono ↔ tuner ↔ CD/video/aux
2. **S1-4** : Tape monitor switch in **"source"** position. (▮ source, ▂ tape/ext)
3. **S2** : Lodness switch in **"off"** position.
4. **S3** : Speaker switch in **"on"** position.
5. **S5** : Power switch in **"on"** position.
6. **S7 [XA] only** : Voltage selector switch in **"240V"** position. 110V ↔ 127V ↔ 240V ↔ 220V
7. Important safety notice: Components identified by ⚠ mark have special,characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
8. Indicated voltage values are the standard values for the DC electronic circuit tester (high-impedance) with the ground point taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
9. ▒▒▒ Phono signal line, Lch.
10. —□— Positive and negative voltage line.

■ TERMINAL GUIDE OF TRANSISTORS, DIODES AND IC'S



■ CIRCUIT TO BE CHANGED AND THE AREA

- **Power source circuit for [XA] area.**



■ RESISTORS & CAPACITORS

Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
3. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
4. The "Ⓢ" mark is service standard parts and may differ from production parts.
5. The unit of resistance is OHM (Ω). K = 1000Ω, M = 1000kΩ
6. The unit of capacitance is MICROFARAD (μF). P = 10^{-6} μF

Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value

Resistor Type	Wattage	Tolerance
ERD : Carbon ERX : Metal film	25 : 1/4W S1 : 1/2W S2 : 1/4W	J : ±5% K : ±10%

Numbering System of Capacitor

Example

ECKD	1H	103	Z	F
Type	Voltage	Value	Tolerance	Peculiarity

ECEA	50	M	R47	R
Type	Voltage	Peculiarity use	Value	Special use

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA : Electrolytic ECCD : Ceramic ECKD : Ceramic ECQM : Polyester ECFT : Semiconductor ECET : Electrolytic	0J : 6.3V 1C : 16V 1E : 25V 1H : 50V 42 : 42V	1H : 50V DC	J : ±5% K : ±10% Z : +80%, −20% P : +100%, −0%

● RESISTORS

Ref. No.	Part No.	Value
R201, 202	ERDS2TJ391	390
R203, 204	ERDS2TJ224	220K
R205, 206	ERDS2TJ563	56K
R207, 208	ERDS2TJ271	270
R209, 210	ERDS2TJ184	180K
R211, 212	ERDS2TJ123	12K
R213, 214	ERDS2TJ563	56K
R215, 216	ERDS2TJ102	1K
R301, 302	ERDS2TJ562	5.6K
R303, 304	ERDS2TJ333	33K
R305, 306	ERDS2TJ392	3.9K
R307, 308	ERDS2TJ222	2.2K
R309, 310	ERDS2TJ821	820
R401, 402	ERDS2TJ102	1K
R403, 404	ERDS2TJ563	56K
R405, 406	ERDS2TJ562	5.6K
R407, 408	ERDS2TJ333	33K
R409, 410	ERDS2TJ332	3.3K
R411, 412	ERDS2TJ332	3.3K
R413, 414 Ⓢ ⚠	ERD25FJ100	10
R415, 416 ⚠	ERDS1FJ151	150
R417, 418 ⚠	ERDS1FJ181	180
R419, 420	ERDS2TJ393	39K
R421, 422	ERDS2TJ472	4.7K
R423, 424	ERDS2TJ273	27K
R425 Ⓢ ⚠	ERD25FJ271	270
R501, 502 Ⓢ	ERX1ANJR33	0.33
R503	ERDS2TJ271	270
R504	ERDS2TJ393	39K
R505	ERDS2TJ153	15K
R601, 602 ⚠	ERDS1FJ681	680
R603, 604 ⚠	ERDS1FJ681	680
R605, 606	ERDS2TJ820	82
R607, 608 ⚠	ERDS1FJ122	1.2K
R609, 610 ⚠	ERDS1FJ122	1.2K
R611	ERDS2TJ151	150

● CAPACITORS

Ref. No.	Part No.	Value
C1 ⚠	ECKDKC103PF2	0.01
C112 Ⓢ	ECCD1H101K	100P
C120	ECEA0JU330	33
C201, 202	ECEA1EU4R7	4.7
C203, 204 Ⓢ	ECCD1H101K	100P
C205, 206 Ⓢ	ECKD1H102KB	0.001
C207, 208	ECEA0JU330	33
C209, 210	ECFTD223KXL	0.022
C211, 212	ECFTD682KXL	0.0068
C213, 214 ⚠	ECEA1HN010S	1
C301, 302	ECFTD563KXL	0.056
C303, 304	ECFTD123KXL	0.012
C305, 306	ECFTD823KXL	0.082
C307, 308	ECFTD272KXL	0.0027
C309, 310	ECFTD223KXL	0.022
C401, 402	ECEA1HU010	1
C403, 404 Ⓢ	ECCD1H101K	100P
C405, 406 Ⓢ	ECKD1H331KB	330P
C407, 408 Ⓢ	ECCD1H020CC	2P
C409, 410	ECEA1HU4R7	4.7
C411, 412 Ⓢ	ECKD1H223ZF	0.022
C413	ECEA1HU470	47
C416, 417	ECEA1HU010	1
C418, 419	ECEA1EU220	22
C501	ECEA0JU470	47
C502	ECEA1EU4R7	4.7
C503	ECEA0JU470	47
C601, 602 Ⓢ [EF] only	ECQM1H823JZ	0.082
C601, 602 Ⓢ other	ECKD1H223ZF	0.022
C603, 604	ECETS40V332X	3300
C607	ECEA1CU471	470
C608	ECEA1CU100	10
C610 Ⓢ	ECKD1H103ZF	0.01

■ REPLACEMENT PARTS LIST

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Ⓚ —marked parts are used for black only, while ○ —marked parts are for silver type only.
4. Part other than Ⓚ — and ○ —marked are used for both black and silver type.
5. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
6. The " Ⓢ " mark is service standard parts and may differ from production parts.
7. The parenthesized numbers in the column of description stand for the quantity per set.

Areas	
[E] ·····	Switzerland and Scandinavia
[EK] ····	United Kingdom
[EF] ····	France
[EH] ····	Holland
[EB] ····	Belgium
[Ei] ·····	Italy
[XL] ····	Australia
[XA] ····	Asia, Latin America, Africa, Middle Near East and Oceania

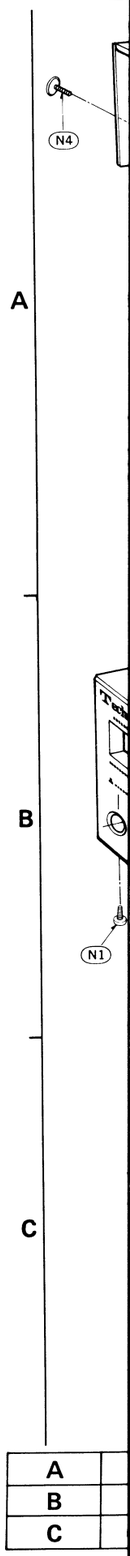
Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC201 IC401 IC501	M5218P SVIK4141−2M AN7072N	Equalizer Power Amp. Muting and Protection
DIODES		
D501, 502 D503 D601−604 Ⓢ ⚠ D605, 606 D701	MA165 MA167 SVDSR1K2 MA4150M LN846RP	Switching Switching Rectifier Zener, 15V L.E.D
TRANSFORMERS		
T1 [XA] only ⚠ **T1** ⚠ [EK, XL] only **T1** other ⚠	SLT5M427 SLT5M426 SLT5M425	Power Source Power Source Power Source
VARIABLE RESISTORS		
VR301 VR302 VR303, 304	EWAQA8X05B54 EWANF5X05G15 EWANA6X05C15	Volume, 50kΩ (B) Balance, 100kΩ (G) Tone Control, 100kΩ (C)
FUSES		
F1 ⚠ F2 [XA] only ⚠	XBA2C06TR0 XBA2C12TR0	250V, T630mA 250V, T1.25A
SWITCHES		
S1 S2 S3 S5 ⚠ S6 [XA] only ⚠	SSH488 SSH1159 SSH1193 SSH1071 ESE37263	Input Selector Loudness Speaker Power Source Voltage Selector

Ref. No.	Part No.	Description
CABINET and CHASSIS PARTS		
1 ○	SGYUZ150−SE	Front Panel (Silver Type) (1)
1 Ⓚ	SGYUZ150−KE	Front Panel (Black Type) (1)
2	SXE1108	Knob Ass'y, Volume (1)
3 ○	SGXUZ150−SE	Ornament, Volume (Silver Type) (1)
3 Ⓚ	SGXUZ150−KE	Ornament, Volume (Black Type) (1)
4	SHR9765	Slider, Volume Knob (1)
5	SUH609	Shaft, Slider (2)
6	SBC722	Button, Selector (4)
7	SUB228	Connection Rod, Selector Switch (4)
8	SBC723	Button, Loudness, Speaker (2)
9	SBD97	Knob, Balance, Tone Control (3)
10 ○	SHR9764	Slider (Silver Type) (3)
10 Ⓚ	SHR9764−1	Slider (Black Type) (3)

Ref. No.	Part No.	Description
CABINET and CHASSIS PARTS		
11 ○	SHR5299	Cover (Silver Type) (1)
11 Ⓚ	SHR5299−1	Cover (Black Type) (1)
12	SBC666	Button, Power Switch (1)
13	SUB227	Connection Rod, Power Switch (1)
14 ○ [EK] only	SKCUZ150−SK	Cabinet (Silver Type) (1)
14 ○ [XA] only	SKCUZ150−SX	Cabinet (Silver Type) (1)
14 ○ other	SKC1550S2	Cabinet (Silver Type) (1)
14 Ⓚ [EK] only	SKCUZ150−KK	Cabinet (Black Type) (1)
14 Ⓚ [XA] only	SKCUZ150−KX	Cabinet (Black Type) (1)
14 Ⓚ other	SKC1550BB2	Cabinet (Black Type) (1)
15	SJJ126B	Jack, Headphone (1)
16 ⚠ [XL] only	SJS9234B	Socket, AC Inlet (1)
16 ⚠ other	SJS9231B	Socket, AC Inlet (1)
17 ⚠ [XA] only	SJS9232B	Socket, AC Outlet (2)
18	SJT388	Fuse Holder (2)
19 [XA] only	SJT388	Fuse Holder (2)
20 [XA] only	SJS9234A	Socket Cover, AC Inlet (1)
20 other	SJS9231A	Socket Cover, AC Inlet (1)
21 [XA] only	SJS9232A	Socket Cover, AC Outlet (2)
22 [E] only	SGP6460A	Rear Panel (1)
22 [EK] only	SGP6460C	Rear Panel (1)
22 [XA] only	SGP6460−2A	Rear Panel (1)
22 [XL] only	SGP6460D	Rear Panel (1)
22 other	SGPUZ150−SF	Rear Panel (1)
23	SJF4437−2	Terminal Board, Speaker (1)
24	SJF3062−1N	Terminal Board, Speaker (1)
25	SHE185	Spacer, P.C.B. (1)
26	SHR401−1	Lock Pin (1)
27	SJS304	Connector (3 Pin) (1)
28	SJS701	Connector (7 Pin) (1)
29 [XA] only	SJS702	Socket (7 Pin) (1)
29 other	SJS305	Socket (3 Pin) (1)
30	SKUUZ150−SE	Bottom Board (1)
[30-1	[SKL293	Foot (4)
31	SMC1195	Shield Plate (1)
32	SHG1636	Rubber (1)
33	SHR301	Clamper (1)
34	SJS5519	Connector (1)

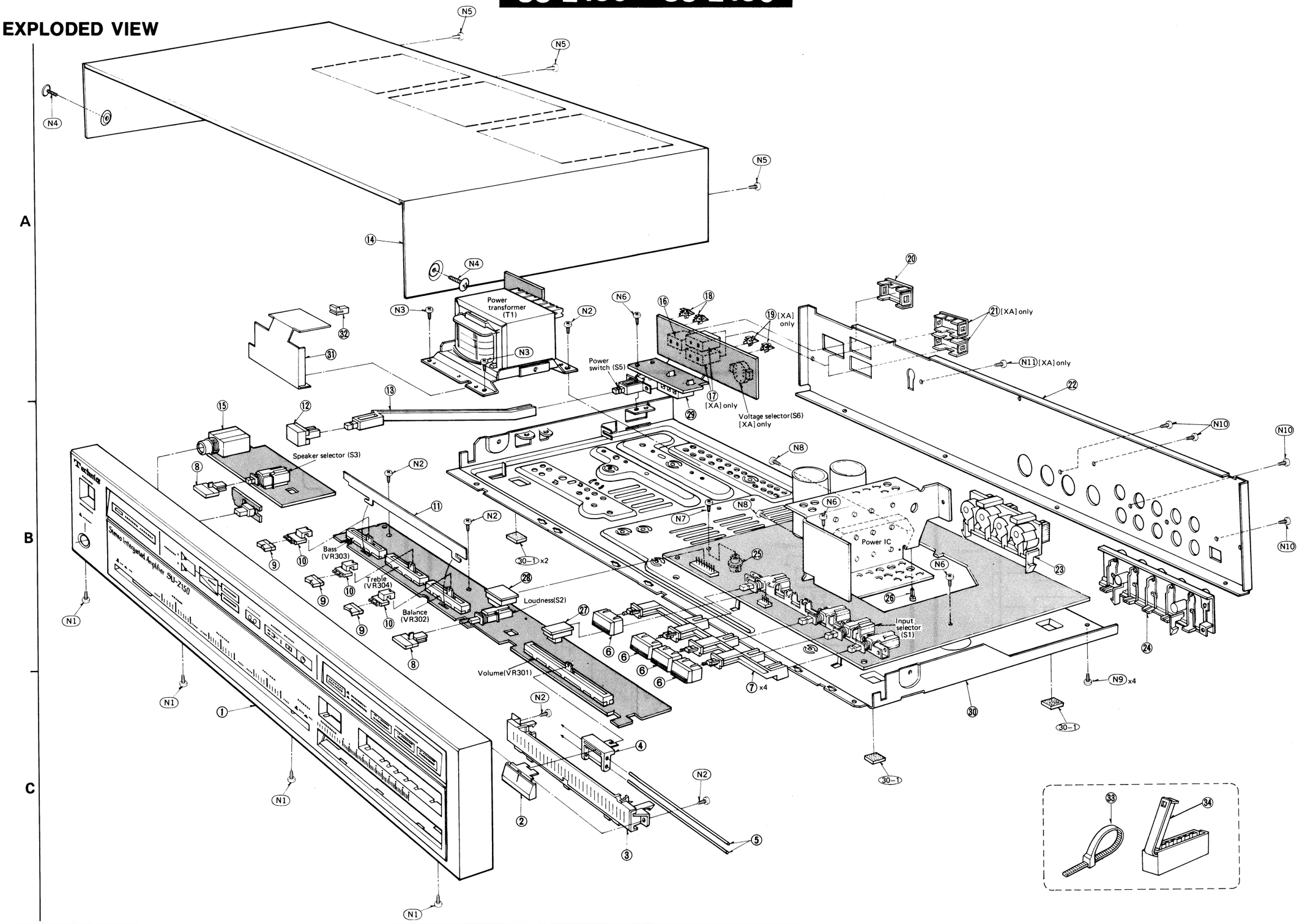
Ref. No.	Part No.	Description
SCREWS		
N1	XTB3+8GFZ	Tapping, ⊕3×8 (4)
N2	XTB3+8G	Tapping, ⊕3×8 (4)
N3	XTB3+6J	Tapping, ⊕3×6 (4)
N4 ○	SNE2095−4	Cabinet (Silver Type) (2)
N4 Ⓚ	SNE2095−5	Cabinet (Black Type) (2)
N5	XTBS3+8BFZ1	Tapping with Detent, ⊕3×8 (3)
N6	XTW3+8L	Tapping, ⊕3×8 (3)
N7	XTW3+15T	Tapping, ⊕3×15 (1)
N8	XTB3+14J	Tapping, ⊕3×14 (2)
N9	XTBS3+6BFZ1	Tapping with Detent, ⊕3×6 (4)
N10	XTBS3+8JFZ1	Tapping with Detent, ⊕3×8 (4)
N11 [XA] only	SNE2095−5	Voltage Selector (1)
ACCESSORIES		
A1 ⚠ [EK] only	SFDAC05G02	AC Cord (1)
A1 ⚠ [XA] only	SJA168	AC Cord (1)
A1 ⚠ [XL] only	SJA173	AC Cord (1)
A1 ⚠ other	SJA171	AC Cord (1)
A2 ⚠ [XA] only	SJP9215	Plug Adaptor (1)
A3 [EK] only	SQF12292	Instruction Book (1)
A3 [XA] only	SQF12295	Instruction Book (1)
A3 other	SQF12291	Instruction Book (1)
PACKING PARTS		
P1 ○	SPP699	Polyethylene Bag (Silver Type) (1)
P1 Ⓚ	SPP735	Polyethylene Bag (Black Type) (1)
P2	SPS4089−1	Pad, Left Side (1)
P3	SPS4091−2	Pad, Right Side (1)
P4	SPS4141	Pad, Upper (1)
P5 [EF] only	SPG5177	Carton Box (1)
P5 ○ [EK] only	SPG5176	Carton Box (Silver Type) (1)
P5 ○ other	SPG5175	Carton Box (Silver Type) (1)
P5 Ⓚ [EK] only	SPG5179	Carton Box (Black Type) (1)
P5 Ⓚ other	SPG5178	Carton Box (Black Type) (1)
P6 ○ [EF] only	SGK1411	Label (Silver Type Only) (2)

■ EXPLODE



A	
B	
C	

■ EXPLODED VIEW



| | | |

ORDER NO. HAD85022412C8–A

Stereo Integrated Amplifier SU-Z150

- This booklet includes the specifications of Model SU-Z150 (Order No. HAD85022412C8) written in German, French and Spanish.
- File this booklet together with the service manual of Model SU-Z150.

- Dieses Büchlein umfaßt die technischen Daten von Modell SU-Z150 (Bestell-Nr. HAD85022412C8) in den Sprachen Deutsch, Französisch und Spanisch.
- Bewahren Sie dieses Büchlein zusammen mit dem Service-Handbuch von Modell SU-Z150 auf.

- Cette brochure comprend les spécifications du Modèle SU-Z150 (N° d'Ordre HAD85022412C8) écrites en français, en allemand et en espagnol.
- Classer cette brochure en même temps qu'avec le manuel de service du Modèle SU-Z150.

- Este librito incluye las especificaciones de Modelo SU-Z150 (Pedido Nº HAD85022412C8) escritas en alemán, francés y español.
- Guardar este librito juntamente con el manual de servicio de Modelo SU-Z150.

DEUTSCH

■ TECHNISCHE DATEN

(DIN 45 500)

■ VERSTÄRKERTEIL

Dauerton-Ausgangsleistung bei 1 kHz	
beide Kanäle ausgesteuert	2 × 30W (8 Ω)
Gesamtklirrfaktor	
halbe Nennleistung bei 1 kHz	0,05% (8 Ω)
Intermodulationsfaktor	
Nennleistung bei 60 Hz: 7 kHz = 4:1, nach SMPTE, 8 Ω	0,8%
Leistungsbandbreite	
beide Kanäle ausgesteuert bei −3 dB	15 Hz ~ 25 kHz (8 Ω)
Dämpfungsfaktor	40 (8 Ω)
Eingangsempfindlichkeit und -impedanz	
Phono	2,5 mV/47 kΩ
Tuner, CD/Aux	150 mV/22 kΩ
Tape Aufnahme/Wiedergabe (Tape/EXT)	150 mV/22 kΩ
Maximale TA-Eingangsspannung (1 kHz, eff.)	150 mV
Geräuschspannungsabstand	
Nennleistung (8 Ω)	
Phono	71 dB (nach IHF, A: 71 dB)
Tuner, CD/Aux, Tape/EXT	85 dB (nach IHF, A: 96 dB)
Frequenzgang	
Phono	RIAA-Standardkurve, ±0,8 dB (30 Hz ~ 15 kHz)
Tuner, CD/Aux, Tape/EXT	10 Hz ~ 70 kHz (−3 dB)
Klangregler	
Baßregler (BASS)	50 Hz, +10 dB ~ −10 dB
Höhenregler (TREBLE)	20 kHz, +10 dB ~ −10 dB
Gehörrichtige Lautstärkekorrektur (Loudness)	
(bei −30 dB Ausgangsleistung)	50 Hz, +9 dB
Ausgangsspannung und -impedanz	
Aufnahmeausgang (REC OUT)	150 mV
Kanalabweichung (CD/Aux, 250 Hz ~ 6300 Hz)	±1 dB
Übersprechdämpfung (CD/Aux, 1 kHz)	55 dB
Kopfhörerpegel und -impedanz	370 mV/330 Ω
Lautsprecherimpedanz	8 Ω ~ 16 Ω

■ ALLGEMEINE DATEN

Leistungsaufnahme	160 W
Netzspannung	
Für Kontinentaleuropa	Wechselstrom 50 Hz/60 Hz, 220V
Für andere Länder	Wechselstrom 50 Hz/60 Hz, 110V/127V/220V/240V
Abmessungen (B×H×T)	430 × 86 × 240 mm
Gewicht	3,8 kg

Bemerkung:
Der Gesamtklirrfaktor wurde mit einem digitalen Rauschspektrometer (Anlage H.P. 3045) gemessen.

(Die technischen Daten können infolge von Verbesserungen ohne Ankündigung geändert werden.)

FRANÇAIS

■ CARACTERISTIQUES

(DIN 45 500)

■ SECTION AMPLIFICATEUR

Puissance de sortie continue à 1 kHz	
les deux canaux en circuit	2 × 30W (8Ω)
Distorsion harmonique totale	
à demi-puissance (1 kHz)	0,05% (8Ω)
Distorsion d'intermodulation	
à puissance nominale à 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0,8%
Réponse de fréquences	
les deux canaux en circuit, −3 dB	15 Hz~25 kHz (8Ω)
Coefficient d'amortissement	40 (8Ω)
Sensibilité et impédance d'entrée	
PHONO	2,5 mV/47kΩ
SYNTONISATEUR, AUX (TUNER, CD/AUX)	150 mV/22kΩ
BANDE, ENREGISTREMENT/LECTURE (TAPE/EXT)	150 mV/22kΩ
PHONO (tension d'entrée maximum, 1 kHz RMS)	150 mV
Signal/Bruit	
à puissance nominale (8Ω)	
PHONO	71 dB (IHF, A: 71 dB)
SYNTONISATEUR, AUX, BANDE (TUNER, CD/AUX, TAPE/EXT)	85 dB (IHF, A: 96 dB)
Réponse de fréquence	
PHONO	Courbe nominale RIAA ±0,8 dB (30 Hz~15 kHz)
SYNTONISATEUR, AUX, BANDE (TUNER, CD/AUX, TAPE/EXT)	10 Hz~70 kHz (−3 dB)
Réglage de la tonalité	
BASSES (BASS)	50 Hz, +10 dB~ −10 dB
AIGUS (TREBLE)	20 kHz, +10 dB~ −10 dB
Compensateur physiologique (volume à −30 dB)	50 Hz, +9 dB
Tension de sortie et impédance	
SORTIE ENREGISTREMENT (REC OUT)	150 mV
Equilibrage des canaux, CD/AUX 250 Hz~6 300 Hz	±1 dB
Séparation des canaux, CD/AUX 1 kHz	55 dB
Niveau de sortie des casques et impédance	370 mV/330Ω
Impédance de charge	8Ω~16Ω

■ DIVERS

Consommation	160W
Alimentation	
Pour l'Europe	CA 50 Hz/60 Hz, 220V
Autres	CA 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensions (L×H×Pr)	430 × 86 × 240 mm
Poids	3,8 kg

Remarques:

1. On mesure la distorsion harmonique totale au moyen d'un analyseur de spectre digital (Système H.P. 3045).
2. La Société NATIONAL-PANASONIC-FRANCE, importateur du matériel MATSUSHITA-ELECTRIC déclare que cet appareil est conforme aux prescriptions de la directive 76/889/C.E.E. (arrêté 14 Janvier 1980)

(Sujet á changement sans prearis.)

ESPAÑOL

■ ESPECIFICACIONES

(DIN 45 500)

■ SECCION AMPLIFICADOR

Potencia continua de 1 kHz	
en ambos canales	2 × 30W (8Ω)
Distorsión armónica total	
mitad de potencia a 1 kHz	0,05% (8Ω)
Distorsión por intermodulación	
potencia de régimen a 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0,8%
Ancho de banda de potencia	
con ambos canales, −3 dB	15 Hz~25 kHz (8Ω)
Factor de amortiguamiento	40 (8Ω)
Sensibilidad e impedancia de entrada	
TOCADISC. (PHONO)	2,5 mV/47kΩ
SINTON., AUX. (TUNER, CD/AUX)	150 mV/22kΩ
GRAB. GRAB./REPR. (TAPE/EXT)	150 mV/22kΩ
Voltaje máximo de entrada de PHONO (1 kHz, RMS)	150 mV
Relación de señal a ruido	
potencia de régimen (8Ω)	
TOCADISC. (PHONO)	71 dB (IHF, A: 71 dB)
SINTON., AUX., GRAB. (TUNER, CD/AUX, TAPE/EXT)	85 dB (IHF, A: 96 dB)
Respuesta de frecuencia	
TOCADISC. (PHONO)	curva RIAA estándar ±0,8 dB (30 Hz~15 kHz)
SINTON., AUX., GRAB. (TUNER, CD/AUX, TAPE/EXT)	10 Hz~70 kHz (−3 dB)
Controles de tono	
BAJOS (BASS)	50 Hz, +10 dB~ −10 dB
AGUDOS (TREBLE)	20 kHz, +10 dB~ −10 dB
Control de sonoridad (volumen a −30 dB)	50 Hz, +9 dB
Voltaje e impedancia de salida	
SAL. GRAB. (REC OUT)	150 mV
Equilibrio de canales, CD/AUX 250 Hz~6 300 Hz	±1 dB
Separación de canales, CD/AUX 1 kHz	55 dB
Impedancia y nivel de salida de los auriculares	370 mV/330Ω
Impedancia de carga	8Ω~16Ω

■ GENERAL

Consumo de energía	160W
Alimentación de energía	
Para Europa continental	CA 50 Hz/60 Hz, 220V
Para otros paises	CA 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensiones (An.×Al.×Prof.)	430 × 86 × 240 mm
Peso	3,8 kg

Nota:
La distorsión armónica total se mide con el analizador de espectro digital (sistema H.P. 3045).

(Estas especificaciones están sujetas a cualquier cambios in previo eviso.)

Printed in Japan
8502O4100 ® YY